Functionally Aligned FY13 Warfighter Outcomes

Level One Big Ideas

Training (T) - Provide the Army the ability to create an efficient, versatile, integrated, and effective unit-training construct that is adaptive to the operational environment and responsive to commanders, leaders, and trainers as they develop unit training to meet ARFORGEN readiness objectives. The construct must be scalable, tailorable, and dynamic to allow commanders to train units at different levels of fidelity to develop new Soldiers as well as deepen the experience of seasoned professionals, by developing tools and technologies that enable more effective and efficient training through live, virtual, immersive, mobile, and adaptable venues. Future training must enable individuals and units to become proficient at more skills, faster, at a lower cost, and with greater retention than currently achievable. Training in units requires enhanced training techniques and technology for on-demand mission planning and rehearsal; individual, collective, and mission command training; and training prior to new equipment availability. Future training must be completely adaptable and scalable to cover all of the Unified Land Operations challenges facing the Soldier.

Mission Command (MC) - The exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of full spectrum operations. It is commander-led and blends the art of command and the science of control to integrate the Warfighting functions to accomplish the mission. Mission command capitalizes on mutual trust and initiative to empower subordinate leaders operating decentralized with the combined arms capabilities, competency, and authority to achieve tactical, operational, and strategic advantage. To realize this, the Future Force must possess worldwide, beyond-line-of-sight network capabilities that are effective, layered, and protected. This network must integrate mission command for unified actions with a single, integrated universal tactical network accessible to the global information grid. It must be optimized for air and ground mobile operations and increase required throughput to the individual Soldier through dynamic, extended range, self-organizing and multilayered communications with decision and planning support capabilities. Additionally, units must execute inform and influence activities and win the cyber/electromagnetic contest via the seizing, retaining, and exploiting advantages in cyber and the electromagnetic spectrum.

Power and Energy (P&E) - Enhance ground force effectiveness, freedom of movement, flexibility, endurance, resilience and protection by reducing the need to resupply fuel and batteries, improving utility and utilization of energy resources in the face of dynamic operational situations. Dramatically reduce sustainment footprint, lighten soldier load and extend platform range/self-power endurance by combining component functions, increasing interoperability, improving energy efficiencies and storage densities, and integrating power management functions. Expand capabilities to utilize alternative energy sources, recycle energy, water and waste, and to redistribute resources among systems. Reduce number of Soldiers and systems required in

forward areas by deploying multi-function and unmanned systems, and expanding reach capabilities. Integrate power & energy management functions with Mission Command to optimize energy use and enable situational awareness and to integrate energy considerations into operational planning and decision processes.

Protection (P) - Drawing from combat experiences and lessons learned since 2001, it is evident that future Army forces will face adaptive enemies that will continue to exploit vulnerabilities in protection. The Army must be prepared to conduct operations to help protect or advance U.S. interests in complex operational environments and against adversaries capable of employing a broad range of capabilities. The primary threats to future Army forces conducting full-spectrum operations include organizations, people, groups, and conditions potentially capable of damaging or destroying personnel and physical asset (vital resources or institutions). These threats include a variety of current and emerging explosives; direct fire; indirect fire; chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE); CBRNE delivery systems, information, and criminal. These areas can be divided into protecting soldiers, protecting platforms, protecting facilities, and CBRNE.

Human Dimension (HD) - The Future Force requires adaptable resilient Soldiers to achieve the Army Operating Concept's goal of operational adaptability in a dynamic, uncertain and demanding future operating environment. The Army must accurately identify attributes, inherent talent and potential to improve recruiting, MOS alignment, training, education and development of Soldiers committed to service, competent in individual and collective tasks and imbued with Warrior Spirit and Army values. This requires a concerted multidiscipline, coordinated enterprise-like effort to develop cognitive, physical and social capabilities throughout the Soldier lifecycle of service and transition to civilian community.

Maneuver (MMvr-G/A) - The movement and maneuver Warfighting function includes the related tasks and systems that move forces to positions of advantage in relation to the enemy. These tasks include deploying, moving, maneuvering, employing direct fires, occupying an area, performing mobility and counter mobility operations, and employing battlefield obscuration. Movement is the dispersion and displacement of forces during maneuver. Maneuver is the employment of movement and fires to move to positions of advantage to defeat the threat. Maneuver force actions will occur in close proximity to civilian populations.

Fires (Fires) - Future Army forces will require Fires Soldiers and leaders capable of adapting to ever changing situations and complex environments under extreme conditions to prevail in the future operational environment and succeed in a wide range of contingencies. The concept of “operationally adaptable fires” focuses on decentralized operations and the ability to link organic and nonorganic sensors with fires platforms to engage ground and aerial targets in a timely, effective, and efficient manner. Operationally adaptable fires provide the Army with versatile capabilities to defeat a wide range of threats and provide a range of precision to conventional scalable capabilities, to engage threats, prevent fratricide, and minimize collateral damage. Fires

Soldiers will have access to and control of joint fires at lower tactical echelons to rapidly employ a balance of precision and area fires to support operations over wide areas in complex terrain, enabling Army Commanders to gain, maintain, and exploit positions of advantage.

Sustainment (Sus) - To meet the challenges of sustaining future operations, future Army forces require an unprecedented ability for leaders to employ adaptive sustainment capabilities, which adjust to changing situations through the use of artificial learning technologies. The Army must deploy the force, overcome anti-access and area denial challenges, conduct decentralized sustainment operations across extended distances, and utilize the JDDE. This will require integrating and networking space-based, aerial (high, medium, and low), and terrestrial communication systems to facilitate transmission of real-time logistics data. Significant gains in sustainability will be achieved by reducing the demand characteristics of the supported force.

Intelligence (Intel) - The intelligence Warfighting function is the related tasks and systems that facilitate understanding of the operational, enemy, terrain and civil consideration. It includes tasks associated with intelligence, surveillance and reconnaissance operations and is driven by the commander. Intelligence is more than just collection. It is a continuous process that involves analyzing information from all source intelligence, counterintelligence (CI), human intelligence (HUMINT), geospatial Intelligence (GEOINT), measurement and signature intelligence (MASINT), open source intelligence (OSINT), signals Intelligence (SIGINT) and technical intelligence (TECINT), and conducting operations to develop the situation.

Warfighter Outcomes Level Two (Grouped by Functional Area)

Training

(T-1) Realistic, Mission Command-Centric, Integrated Training Environment
The Future Force requires an embedded, networked, and integrated training environment (ITE) at home station, combat training centers, institutions, and while deployed.
The integrated training environment must:

1. Support realistic training and education for unified land operations including sustainment and maneuver support challenges associated with decentralized and distributed operations, mission command networks, and sensors
2. Replicate complex operational environments with a level of realism sufficient to optimize training effectiveness for standardized METL training
3. Provide unit leaders the ability to conduct on-demand distributed training and mission rehearsal across echelons and geographical locations
4. Include a comprehensive (individual and collective), embedded combined-arms training capability, that includes mission command and maneuver (mounted and dismounted) tasks. The embedded training must portray realistic operations effects (e.g., visual and aural cues) to enhance situational awareness during training events.
5. Provide a Training (that includes education) Network with the capacity and infrastructure to support worldwide, secure, wireless delivery of training products on platforms that range from fixed computers and simulation centers to mobile platforms across all training environments and domains. The network must:
   a) Support interpost "linked & unlinked" events at home station, combat training centers, Army schools and while deployed
   b) Deliver real-time training enablers (training aids, devices, simulators, and simulations) and distributed learning, education, and exercises when and where needed
   c) Allow the embedded training systems the ability to be interoperable and integrated into the Army Integrated Training Environment (Army ITE)
   d) Support both the Operational Army and Generating Force
   e) Enable the Regional Collective Training Capability (RCTC) in support of Training at Homestation initiative

(T-2) Accessible Learning Capability
The Future Force requires an accessible, responsive, and adaptive "24/7" learning capability that is available worldwide at the point of need.
The learning capability must:

1. Integrate knowledge management tools, techniques, technologies, and infrastructure that enable the rapid development or adaptation, storage, delivery, and access to individual and collective training and education information and/or products (e.g., training and learning management tools, knowledge banks, communities of practice, and collaborative learning)
2. Provide mobile access to learning content, on-demand, at the point of need, to include mobile internet devices using secure wireless applications and infrastructure

3. Provide Soldiers, DA civilians, and their leaders access to well-designed learning content and information that is relevant to their learning need, is secure, and accessible across their careers

4. Support the individual at home station, Army institutions, and while deployed

5. Provide for reliable and constant easy access to relevant, up-to-date, engaging, operational and institutional information within a secure or unclassified environment

6. Provide applications and templates for common activities (e.g., orders, reports), with the ability to increase complexity for training and education applications

7. Be designed with an architecture that allows interoperability to support multiple training and education products; and, where possible, be device agnostic so that the products can be played on multiple kinds of devices and systems. The architecture must have clearly defined protocols and standards, facilitate content validation, and allow assessment of product content and effectiveness.

8. Provide reach back and access to subject matter expertise (these resources will include knowledgeable individuals and comprehensive informational databases) at the point of need at any time.

(T-3) Low-Overhead Immersive Training and Education Capability

The Future Force requires an immersive virtual training system that fully represents the physical aspects of the operational environment (OE) and remains cost effective.
The immersive capability must:

1. Provide individual and multi-echelon low-overhead simulation(s) that enable a small unit collaborative training experience using L, V, C, or G enablers, and limited mission planning and rehearsal capabilities for Unified Land Operations

2. Be secure, low cost, interoperable with Army? Joint? Mission Command systems, and a fully interoperable with the Army Integrated Training Environment

3. Allow the rapid development of scenarios and vignettes to replicate the conditions of the OE, including autonomous computer-generated (Blue, Red, and Gray) forces

4. Allow the migration of collective scenarios into individual immersive environment to increase rigor and rapid iterative retraining based on feedback from an AAR capability.

5. Be easily adaptable to train individual and collective tasks from the fundamental to more complex, from the high to low density Functional Area and MOS skills

6. Provide an immersive capability for dismounted Soldiers that provides sufficient realism to maximize learning.

7. Provide Joint operations “wrap around” capability.

(T-4) Enhanced Gaming Capability

The Future Force requires a persistent, scalable, and adaptable multi-echelon, networked (that can also operate in a stand-alone mode), and online gaming capability that replicates the operational environment and enhances training and education effectiveness.
The gaming capability must:

1. Provide for avatars that reflect Soldier characteristics (e.g., height, weight, skills, fitness, and physical attributes)

2. Allow easily configured terrain and scenarios via rapid scenario and exercise generation tools to increase timeliness, availability, and instructional outcomes of scenarios that replicate operational events to support training, education, and mission planning and rehearsal; rapid, user-friendly authoring tools to reduce development costs, time, and permit Soldiers and units in the field to create effective learning scenarios at the point of need

3. Provide the ability to train leaders in using one game, multiple roles at different echelons, providing immediate feedback on performance

4. Allow for realistic and meaningful interactions between real and virtual players (e.g., those that realistically portray appropriate facial expressions and gestures, react and counter-react to verbal and non-verbal stimuli, and can act autonomously to support learning objectives). Interactors include the full range of threats (conventional, irregular, terrorist, and criminal), indigenous populations, and JIIM elements

(T-5) Individual Training for Tactical Tasks

The Future Force requires a learner-centric system that can adapt to the needs of the individual through timing, content, volume, means of delivery, and duration using a centralized training database.

The training capabilities must:

1. Be tailorable to meet the specific skills and knowledge level or needs of the individual Soldier or leader

2. Be rapidly developed, updated, and easily accessed

3. Provide a persistent and adaptable infrastructure to accelerate Individual learning

4. Enable Soldiers, DACs, and their leaders the ability to conduct accurate self-assessments to determine future training and education requirements to improve knowledge, skills, behaviors, and abilities

5. Provide the ability to design individual learning strategies and the tools to execute them based on valid machine or instructor assessments

6. Provide embedded assessment and diagnostic capability to support individual diagnostics to tailor and adapt individualized instruction, provide verification of mastery, and track preparedness for career progression

7. Include an affordable capability to develop technology-delivered instruction that mimics a one-on-one expert tutor by adapting and tailoring individualized learning to the learner's prior knowledge and learning style preferences (i.e. an intelligent digital tutor). This artificially intelligent agent will coach Soldiers, guide them through learning events, provide performance feedback in accordance with Army standards, diagnose learning gaps, and anticipate and seek out learning content tailored to the learner's needs. This personal tutor augments live coaching and is continuously available to tailor learning strategies to individual learning objectives.

(T-6) Interface for Commander-Managed Training

The Future Force requires the ability for the commander to interface with the Integrated Training Environment to develop, view, and manage Unified Land Operations training

events in real time by adjusting training conditions and activities to stimulate decisive action task training.
The interface must:

1. Provide situational awareness for the commander across L, V, C, and G training enablers
2. Allow the commander to adjust training conditions; rapidly advance training; repeat/redo training under different conditions; and increase rigor, intensity, and complexity, as desired
3. Provide the commander automated unit training management tools to support rapid team building, and mission planning and rehearsal to assure mission-tailored units achieve the level of readiness needed for rapid deployment. Automated data collection, analysis and presentations for after action reviews (AAR) for live, virtual, constructive, and gaming training require automated AAR development which is driven by training objectives and a full understanding of tasks, conditions and standards. Improved data collection and AAR development through increased artificial intelligence will reduce time and the staff required to assemble AARs. AAR capability must also be interoperable and integrated into the Army Integrated Training Environment (Army ITE).
4. Allow unit leaders the ability to quickly and affordably access training scenarios at the appropriate level of complexity and adjust them to meet mission-specific individual and collective training objectives without significant external support

(T-7) Virtual Human Capabilities
The Future Force requires virtual human capabilities to represent combatant and non-combatant forces, indigenous populations and culture, and JIIM players across the integrated training environment to replicate the complexities of Unified Land Operations in any Operational Environment.
The virtual humans must:

1. Be high-fidelity, realistic, computer-generated elements that are "free-thinking" and can react to learners using virtual and gaming capabilities for training and education.
2. Have appropriate facial expressions and gestures, react and counter-react to verbal and non-verbal stimuli, and act autonomously in the virtual enablers to support l learning objectives and improve future Soldier, DAC, and their leaders' skills, adaptability, and innovative thinking
3. Be cost effective and affordable to provide realistic virtual humans to populate large-scale simulations and participate in live training events (via augmented reality capabilities) to expand the range of on-demand, interactive training opportunities and reduce human overhead support

(T-8) Adaptive Training and Innovative Learning
Leader development and unit training in the Future Force requires responsive and adaptive training and education infrastructure, development capabilities, and applications that rapidly and effectively incorporate emerging warfighting experience and knowledge into training and education in the schools, units, and through self-development.

1. The adaptive training system must provide advanced automated training development tools, collaborative development capabilities, and shared information repositories to rapidly and efficiently capture, incorporate, and disseminate relevant information through effective learning means (e.g., modules and scenarios) at the point of need

2. The Future Force requires greater knowledge of how to learn more rapidly and retain acquired skills and knowledge longer, the of the art and science of learning, and of neuroscience applications to create innovative, adaptable, tailorable and flexible learning models, methodologies, strategies, and tools that result in more effective and efficient learning for units and individuals in institutions, at home-station and while deployed

3. Leaders need enhanced pedagogy capabilities to inculcate critical competencies for Unified Land Operations at appropriate levels across the learning continuum

(T-9) Enhanced / Integrated Live Training Capability

The Future Force needs to rapidly develop and conduct synchronized live training, up to brigade level, in conditions that replicate the complexities of the operational environment.

The training capability must:

1. Stimulate mission command systems and actual sensors; realistically replicate combined arms effects and capabilities; realistically replicate hybrid threat capabilities and the capabilities of Joint, Interagency, Intergovernmental, and Multinational (JIIM) partners; be interoperable among air, ground (mounted and dismounted), and other Service TADSS systems; and provide rapid and realistic feedback to the individual, vehicle, or equipment

2. Provide a full-scale urban operations training capability for home station and at CTCs that integrates L-V-C TADSS and infrastructure

(T-10) Cultural Awareness

The Future Force requires the ability to understand, communicate, and coordinate effectively across diverse groups of people in a variety of cultures.

This capability is needed to create innovative, adaptable, tailorable, and flexible learning models and must:

1. Include increased understanding of cross-cultural capability; associated learning objectives and sequencing of cross-cultural competency development; and methodologies, strategies, and tools for use with L, V, C and G training enablers.

2. Enable Soldiers, DA civilians, and their leaders to develop and sustain appropriate language and cultural competencies (region and culture—specific and general) that enhance performance in operational environments.

(T-11) Models and Simulations for Training Effectiveness Analysis
The Future Force requires the development of models, simulations or other tools for Training Effectiveness Analysis.

The tools must:

1. Evaluate the effectiveness and efficiency of existing training programs and products
2. Predict impacts—positive and negative--of proposed training products and programs
3. Enable comparison of return on investment (time, manpower, money) across training strategies

Mission Command

(MC-1) Create Common Situational Understanding Supported by a Standard Sharable Geospatial Foundation - The Future Force requires the capability to enable collaboration to facilitate common situational understanding and interactive adaptability vertically and horizontally across the force to support unified land operations. Forces must display and share relevant information on a common operational picture (COP) from dismounted Soldier to all higher echelon commands to enable battlefield visualization, understanding, coordination, and synchronized action in unified land operations. Processing and exploitation of all relevant collected data must provide real time support to commanders' situational awareness and situational understanding and the common operational picture (COP) to include software-enabled automated information synthesis to tag, process, and transform data rapidly and accurately into usable knowledge, across a wide range of subjects from military logistics to culture and economics. The backdrop for understanding common situation begins with the ability to collect, generate, fuse and disseminate high-resolution geospatial data across the network. This requires standard and shareable geospatial data that supports all Warfighting functions. Geospatial data must be customized to a unit's mission in a unified action and operational environment. It includes geospatial data, products, information, applications, tools, displays, etc.

(MC-2) Mission Command On-the-Move - The Future Force requires the capability to provide commanders the ability to maintain situational understanding while moving in the air and on the ground in a unified action operational environment to synchronize action and maintain the initiative. This includes the capability to employ command posts that are configurable to the commander's unique mission and operating environment and capable of integrating unified action partner resources to enable decentralized full spectrum operations. It has three components:

1. A highly mobile (quick set-up and rapid displacement), scalable command post (CP) capability;
2. A platform (air and ground) based capability that allows commanders the ability to monitor the COP and thus maintain situational awareness and communications while away from the CP and moving on the ground or in the air;
3. An enroute mission planning and rehearsal capability that provides commanders and staffs the ability to execute mission command while deploying in support of expeditionary and forced entry operations.

(MC-3) Network the Force - The Future Force requires the capability to provide timely flow of information in accordance with the commander’s priorities with integrated, protected, layered, and secure communications capable of both line-of-sight and beyond-line-of-sight to enable unity of command within unified land operations in decentralized full spectrum operations, and permits continuation of operations in a degraded environment.

(MC-4) Enable Unified Action Partner Collaboration - The Future Force requires the capability to sanitize, disseminate, share, and exchange information across all Army echelons and with unified action partners to enable collaboration and unity of effort. The term "unified action partners" includes joint, coalition, allied, interagency, and intergovernmental partners.

(MC-5) Create, Communicate, and Rehearse Orders - The future force requires the collaborative capability to create, change, rehearse, disseminate, and distribute mission orders verbally, orally, and graphically between command posts, air and ground platforms, and dismounted leaders and Soldiers to seize the initiative in complex and uncertain environments as part of unified action. This includes the ability to communicate commander's intent, operational purpose, and desired end state; collaboratively create orders, analyze various courses of action using simulations: and rehearse proposed plans in a virtual environment and facilitate Design.

(MC-6) Running Estimates - The Future Force requires the capability to continuously gather, track, and extrapolate information to support running estimates and tactical decision-making while developing the situation in a unified action operational environment to maintain and exploit the initiative during FSO.

(MC-7) Execute Network Operations - The Future Force requires the capability to allocate network resources in accordance with the commander's priorities to ensure network-enabled mission command in all conditions. The Future Force requires the capability to continuously gather, track, and extrapolate information to support running estimates and tactical decision-making while developing the situation in a unified action operational environment to maintain and exploit the initiative during FSO. This includes the capability to extend mission command functions when operating in a disconnected, intermittent, limited bandwidth (DIL) network environment. Military operations must continue regardless of the severity of the DIL constrained environment. All training environments must be able to replicate DIL imposed constraints.

(MC-8) Airspace Control in Unified Action - The Future Force requires the capability to employ joint, multi-national, and civil airspace control capabilities for the planning and integration of airspace user requirements in joint operations and unified action to enable unity of effort in FSO.

(MC-9) Cyber / Electromagnetic Capabilities - The Future Force requires the capability to gain and maintain the cyber and electromagnetic advantage and deny same to adversaries to seize, retain, and exploit the initiative across the physical Warfighting domains in a unified action operational environment.

(MC-10) Alternative to GPS for Location and Navigation in Complex Environments - The Future Force requires an alternative means of determining geo-locations of friendly, enemy, and non-combatant personnel in all terrain environments.

(MC-11) Inform and Influence Activities - Future Army forces at all echelons require the capability to effectively inform domestic and friendly foreign audiences and influence foreign friendly, neutral and adversary audiences and receive and measure feedback in a fully integrated and timely manner through the use of synchronized themes, messages and actions designed to support operations. Forces must establish, maintain, and shape relations with foreign governments, indigenous populations, and nongovernmental and international organizations to gain and maintain access, facilitate maneuver, and succeed in unified land operations.

(MC-12) Command Posts - Future Army forces require scalable, modular, soldier-operated and maintained, deployable, and mobile command posts enabling leaders to understand, visualize, describe, direct, lead and assess actions and effects and succeed in unified land operations.

Power and Energy

(P&E-1) Power & Energy - Improved utility and utilization of energy resources will enhance Future Force effectiveness, freedom of movement, flexibility, endurance, resilience and protection by reducing the need to volume of fuel and battery resupply.

(P&E-2) Power and Energy Management, Optimization, and Efficiency - The Future Force requires a system architecture that relates operational functions and metrics to requirements, systems taxonomies, component technologies, and predicts/validates performance.

1. The Future Force requires the ability to model and design energy, waste and water systems, in order to analyze existing and prospective systems and their cost/performance impacts to full-spectrum operations. This requires systems and engineering analysis to develop the logical relationships and quantitative performance factors.
2. The Future Force requires situational awareness and the ability to manage energy resources and use in the context of expeditionary operations. The goal is scalable, embedded power- management, supported by materials, techniques, and software to manage intelligently multiple potential power sources, to reduce demand, to balance load, and to improve efficiencies.
3. The Future Force requires flexibility and resilience enabled by “plug-n-play” energy devices. This requires development of standards, protocols and engineered interfaces to enable scalable networking of sources and applications.

(P&E-3) Alternative Energy Sources - The Future Force requires capabilities to utilize an expanded suite of alternative energy sources that supplement or replace current logistic approaches to fuel, water and waste, and offer significantly improved system efficiencies and operational effectiveness.

(P&E-4) Enhanced Energy Agility, Endurance, Conservation and Efficiency - The Future Force requires significant increases in energy agility and endurance for soldier, platform and base camp use cases. This challenge demands integration of lightweight concepts, compact, high density energy supply systems (storage, conversion, delivery) and intelligent energy/power management, in order to double existing endurance (un-resupplied time and distance) for dismounted, mounted and stationary mission profiles and to provide access to currently unavailable terrain. The Future Force also requires sufficient capability to generate, manage, store and share electrical power for ground and aerial platforms underway (on-board systems) and at halt (networked with other systems), while minimizing signature and reducing fuel consumption and with minimal increase in size, weight, operating or maintenance effort.

Protection

(P-1) Counter IED and Mine - The Future Force must have the ability to detect, classify and neutralize Explosive Hazards (IED, mines, booby traps, UXO and CBRN) and/or their components from a sufficient standoff distance. The Future Force requires the capability to locate the hazard, determine the type of hazard, select the best method of neutralization, mitigate, and ascertain the potential effects on the environment. This capability will allow the commander to assure mobility while protecting Soldiers and platforms from the effects of these threats and hazards.

(P-2) Combat Identification - The Future Force requires the capability to identify friend, enemy, neutral and noncombatant during unified land operations to prevent fratricide and protect populations.

(P-3) Hazard Detection On-the-Move - The Future Force requires the capability to detect explosive hazards at standoff ranges and convoy speeds. Enable Soldiers conducting area/route clearance to avoid kill zones by detecting explosive hazards at greater standoff and operating speeds.

(P-4) Identify and Prevent Explosive Hazard (IED, Mines, booby traps & UXO) and CBRN (CWA/NTA/ Selected TIM) Emplacement Activities - The current and Future Force requires the capability to disrupt activity prior to emplacement of identified threats.

(P-5) The Ability From Standoff Range to Identify, Prevent And Mitigate CBRN and Explosive Hazards (IEDs, Mines, booby traps & UXO) - The Future Force must have the ability to detect, diagnose, render safe or neutralize CBRN and explosive hazards (IEDs, UXOs, mines) and their components (fillers and firing circuits) from a safe standoff distance. They need the capability to determine the type of hazard, select the best method to render safe and/or neutralize, and ascertain the potential effects on the environment and operations. This capability will allow the commander to maintain maneuver force momentum while protecting Soldiers and platforms from the effects of these hazards. To be able to detect CBRN and explosive hazards from a safe standoff range in order to identify and characterize fillers and firing circuits, to conduct render safe procedures.

(P-6) Standoff Detection of Homemade Explosives & Pre-Cursors - The Future Force needs intrusive and non-intrusive stand-off screening, detection and identification of homemade explosives, explosive pre-cursor components and devices to protect the force and acquire information to attack the network.

(P-7) Enhanced Protection-Platform - The Future Force requires platforms with an occupant centric survivability scheme which uses a holistic approach across the entire vehicle in regards to weight, protection levels, and mobility. Due to the full spectrum of operational environments our mounted Soldiers encounter, the scalable protection layers should focus on defeating a wide range of threats while maintaining or enhancing

our freedom of action. Future platforms may be enhanced with improved “active protection capabilities” which will defeat the threat prior to impact.

(P-8) Enhanced Protection – Soldier - The Future Force requires enhanced scalable protection for both the mounted and dismounted soldiers (head, neck, body, and extremities) from a full range of threats ranging from small arms, blast, and fragmentation. Enhancements should reduce weight while maintaining the same level of protection or have improved protection to defeat a larger threat at the same weight as the current capability.

(P-9) Improved Area & Route Clearance Capabilities - The Future Force requires the ability to improve threat detection capabilities to support planning and real-time response during tactical operations. Enable Soldiers conducting area/route clearance to avoid kill zones by detecting mines, IEDs and crew-served weapons. Area/route clearance missions require the Soldiers to detect, mark and neutralize the explosive hazard.

(P-10) 360 Degree Hemispherical Protection - The Future Force requires systems that provide enhanced 360 degree hemispherical protection of fixed, semi-mobile/mobile forces; battlefield casualty extraction/transport; security operations. Ranges from the protected entity will be determined based on current threat but could extend to NLOS distances.

(P-11) Predict Enemy Capabilities, Actions, Effects or Hostile Intent - The Future Force Soldier at the small unit level needs enhanced situational awareness and the capability to continually assess threat capabilities, actions, effects, and/or hostile intent in order to understand battlefield dynamics and protect personnel, assets, and information.

(P-12) Identify, Prevent and Mitigate the Use of CBRN (CWA/NTA/ Selected TIM) Agent Dispersal Modes (Sprayers, CBRN-Filled IEDs, Bomblets, etc) at Standoff Distances - The Future Force requires the ability to detect, identify, and neutralize CBRN (CWA/NTA/ Selected TIM) material dispersal modes prior to dispersal, or areas contaminated previously, to protect personnel, equipment, terrain, and facilities from the effects of CBRN contamination (CWA/NTA/ Selected TIM).

(P-13) Warn Individuals - The Future Force requires the ability to: (a) Detect the presence of a CBRN (CWA/NTA/select TIM) hazard to warn; (b) Determine when the threat is no longer a hazard in order to reduce the protective posture.

(P-14) CBRN (CWA, NTA and Selected TIM) Alarm - The Future Force requires the ability to: (a) Detect the presence of a CBRN (CWA/NTA/select TIM) hazard to warn; (b) Determine when the threat is no longer a hazard in order to reduce the protective posture.

(P-15) Visual and Virtual Obstacle Marking System - The Future Force requires the ability to digitally and physically mark obstacles and hazard areas (IED, mines, booby traps, UXO, CBRN-CWN/NTA/Selected TIM hazards) in daylight, night, and obscured weather conditions to inform personnel and the common operational picture.

(P-16) Identify and Mitigate Blinding Laser and RF Threats - Future Force Soldiers require active and passive capabilities to detect and defend against blinding laser and RF threats.

(P-17) Identify and Mitigate Subterranean Threats - The Future Force requires the capability to detect subterranean passageways to prevent enemy or detainee activity below the surface of the Earth.

(P-18) Environmentally Friendly Decontaminants - The Future Force requires standard decontaminants that mitigate the effects of CBRN hazards and do not adversely impact the environment, personnel or equipment.

(P-19) CBRN (CWA/NTA/Selected TIM) Filters and Subcomponent Filtration Systems - The Future Force needs improved CBRN (CWA/NTA/ Selected TIM) filters and subcomponent filtration systems that are more effective against TIM & NTAs, and are easier to maintain.

(P-20) CBRN Exposure Monitoring - The Future Force Soldier requires the capability to monitor the effectiveness of individual and small unit protection ensembles in real time, which will warn the force when and where failures from CBRN threats (CWA, NTA and Selected TIM) are going to occur. This feature needs to be integrated into the protective ensemble it is monitoring.

(P-21) Unmanned Systems - Force Protection Integration - The Future Force requires the ability to integrate unmanned systems into force protection surveillance and response systems. This will increase the operational capability of individual Soldiers by allowing them to complete other missions or permit additional rest cycles in the mission profile.

(P-22) Soldier Signature Reduction - The Future Force requires the capability to reduce the signature of Soldiers and their equipment on the battlefield.

(P-23) Model Hazard Effects of CBRN - The Future Force requires methodology to model (predict) and provide common representation of Chemical, Biological, Radiological, or Nuclear (CBRN) hazard areas and effects resulting from CBRN weapons and Toxic Industrial Materials (TIM), and display results, on the common operating picture.

(P-24) Austere A/SPOD Protection and Security - The Future Force requires the ability to provide protection and security for airlift and sealift operations during ingress, egress, and offloading at multiple unimproved A/SPODs.

(P-25) Remote Screening of HME Precursors - The future Army needs the capability to remotely screen vehicles at checkpoints, and NAI for detectable indicators of the presence of HME precursors.

(P-26) Remote Identification of Trace Residue - The future Army needs the capability to remotely identify trace residue on vehicles, containers and devices at entry control points.

(P-27) Squad Identification of Bulk Precursor Material - The future Army needs a capability for MOS Non-Specific members of a squad sized patrol to screen unknown bulk materials to determine if they were prohibited precursor materials and to cue other, more capable assets when required.

(P-28) Conduct mobile forensic analysis in the field - The future Army needs a mobile capability of conducting field forensic, elemental analysis and or field exploitation of explosive materials and devices encountered during field operations.

Human Dimension

(HD-1) Assessment, Readiness and Resiliency - The Army requires Soldiers able to endure the physical, mental and environmental stresses of future full spectrum operations. Advances in neuroscience and related behavioral sciences show promise in improving mental strength and developing predictive, preventative and remedial means. Scientific breakthroughs in biochemistry and brain functioning may enable identification of both vulnerable and resilient traits in individual Soldiers. These predictive indicators will inform specific training and education necessary to develop appropriate TTPs and/or procedures to protect and strengthen Soldier vulnerabilities. New initiatives may provide means to develop mental and psychological strength similar to physical training developing muscular strength and endurance. Neurological and biochemical developments will provide monitoring and assessment tools of Soldier readiness to aid the performance of stressful tasks or combat operations. The Army must include the transitioning healthy confident Soldiers to the civilian community and Veterans Administration when military service is ending.

(HD-2) Soldier Load (MOS Performance Standards) - The Army must devise means to monitor and ameliorate Soldier cognitive, physical and social loading to avoid task saturation, exhaustion, and excessive stress. Provide leaders with real time assessment tools that enable tracking individual and unit overall comprehensive fitness. The Future Force requires that Soldier capabilities meet or exceed the expected cognitive and physical minimal performance requirements by MOS and/or mission type. MOS and/or mission type should be studied to identify core and specific skill/physical requirements Soldiers will need to perform. Attention is required to examine the cognitive load a Soldier is expected to bear to perform via all data inputs provided to mounted and dismounted Soldiers. Every effort must be made to consolidate Soldier systems, data flow, battery types, etc to lighten the physical burden Soldiers bear performing FSOs. This requires counterbalancing capabilities and scientific tools to assess Soldier capacity, align individuals with compatible specialties to meet their optimal load bearing capabilities, align physical fitness requirements and develop lighter, multipurpose kits tailored to the mission, survivability, power generation, environment, and related factors.

(HD-3) Human Resource Readiness Tools (HRRT) - Future Force commanders require a Soldier Readiness (SR) capability to support training and mission planning. It requires access to multiple data interfaces to present qualified status of a Soldier's cognitive, physical and social status. The SR tool should provide real time measures of cognitive load, stress, fatigue, profile status on items such as training, language skills, promotion eligibility, emergency data and anything pertinent to individual well being as well as tracking special skills/attributes of the Soldier. This data requires collation and automation to provide alerts, render unit-level assessments and selection ability without overwhelming with volume and detail.

(HD-4) Mapping Personnel to Mission Requirements - The Future Force requires the capability to assess Soldiers' wide range of talent, skills, and potential and match them to appropriate MOS or mission type. This assessment capability must be

continuous throughout a Soldier's career life cycle to manage leader development efforts, advancement, inform the SR tool and adjust to changing operational demands of the force. Assessment mapping capability enables early skill identification, tracking, development and improved assignment actions especially for highly specialized skills or competencies such as foreign language proficiency and intercultural adaptability. Direct accession of certain skilled individuals (as the Army does with some medical personnel) will reduce maturation time, training and education costs. This requires a careful examination be given to basic Soldier skills and values.

(HD-5) Operational Adaptability and Decision-making - The Future Force requires adaptable and resilient Soldiers comfortable with the uncertainty and ambiguity of the future operating environment. The Army requires a comprehensive approach to develop cognitive, physical and social skills, knowledge and attributes conducive to creative and critical thinking. All forms of training require multi-faceted multi-layers embedded with Army values, tough moral decision-making, etc., at a minimum to reach the operational adaptability required. This capability is inherent to the concept of Mission Command.

(HD-6) Utilizing Social Networking to Support Military Processes - The Future Force requires the capability to capitalize on all known means of networking to support instruction, training and basic communication between Soldiers. This includes the ability to adjust to and adopt appropriate emerging tools such as social networking. It also includes the ability to utilize digital technology's ability to share information and augment traditional methods of training and education. The Future Force must be proactive in both developing and exploiting technology to enhance military performance in full spectrum operations.

(HD-7) Improve Foreign Language and Cultural Awareness - The Future Force requires the capability to develop Soldiers who are culturally informed and, to the degree practicable, conversant in local languages. To achieve this capability the Army must employ every applicable means to prepare Soldiers for the regions where they will operate. The Army must invest the time necessary to educate and provide cultural experience to an appropriate number of individuals who are regionally oriented, culturally informed, and capable of communication with foreign personnel.

Maneuver

Maneuver Ground

(MMvr-G-1) Austere Points of Entry - Future maneuver forces require the capability to conduct sea, ground, and vertical movement and maneuver of combat-configured Soldiers and equipment in tactical formations from land or sea bases to tactical and operational depths, utilizing austere points of entry to overcome enemy anti-access and area denial efforts and achieve a position of advantage in relation to the enemy.

(MMvr-G-2) Joint Entry Operations - Future Army maneuver forces require the capability to conduct joint entry operations, forcible or unopposed, from strategic distances and rapidly transition from deployment to employment to move to positions of advantage to defeat enemy forces, control and influence populations, and establish conditions that achieve the joint force commander's end state.

(MMvr-G-3) Armored Vehicle Protection and Weight - The future Force requires Armored vehicles with a combination of passive, reactive and active protection against top attack, side attack and underbelly threats that is equal to or greater than current protection and reduces the overall weight as compared to current armored vehicles.

(MMvr-G-4) Lethality Overmatch - Future Army Maneuver forces require the capability to detect, recognize, classify, and identify targets through cooperative and non-cooperative methods, in order to prioritize and engage both ground and aerial targets, outside the threat's detection and engagement capability and inside the threat's response time to maintain lethality overmatch.

(MMvr-G-5) Enabled Tactical Maneuver - Future Army maneuver force platforms require the capability to acquire and identify targets beyond enemy direct fire ranges and perform unexploded ordnance, mine, IED, and CBRNE detection, in complex terrain to enable tactical maneuver.

(MMvr-G-6) Target Engagement - Future Army maneuver forces require lethal and nonlethal capabilities coupled with information to effectively engage targets in the physical and cyber environments at extended range to shape the fight, reduce casualties, and minimize damage.

(MMvr-G-7) Dominate Terrain - Future Army maneuver forces require the capability to dominate terrain and modify the physical environment with counter mobility operations to isolate enemy forces, deny key terrain, and impede, deny, or canalize enemy movement via lethal and non-lethal means.

(MMvr-G-8) Mobility Missions - Future Army maneuver forces require the capability to simultaneously accomplish all required mobility engineer missions to insure freedom of maneuver.

(MMvr-G-9) Freedom of Maneuver - Future Army maneuver forces require engineer capabilities to conduct route clearance, gap crossing, rapid construction, repair of routes, and rapid infrastructural improvements to enable freedom of maneuver.

(MMvr-G-10) Compact Power for Dismounted Soldiers - Enables Soldiers in Small Combat Teams. The Future Force requires the ability to provide Soldiers scalable solutions for sufficient power in a small, lightweight, conformable package. Require capability to rapidly refuel/recharge without disrupting operational tempo.

(MMvr-G-11) Unmanned Systems - Movement and Maneuver - The Future Force requires unmanned systems to support assured mobility; freedom of maneuver; reconnaissance and surveillance; manned-unmanned teaming; and reducing Soldier loads.

(MMvr-G-12) Scalable Munitions - Future Army maneuver forces require precision, volume fire, and scalable (nonlethal to lethal) munitions, interoperable between joint and Army air platforms, to destroy or neutralize threat forces to support ground maneuver forces.

(MMvr-G-13) UGV Autonomous Movement - The Future Force UGVs will need autonomous movement with tactical behaviors to support operations in varying terrain, weather, and battlefield conditions. They will support mounted and dismounted forces conducting full spectrum operations and must be capable of following or moving independently of mounted/dismounted Soldiers across rolling, open, constrictive, and complex terrain.

(MMvr-G-14) UGV Autonomous Tactical Behaviors - Future Force unmanned systems must be able to execute complex tactical behaviors with minimal required operator intervention during a mission. These systems must allow for greater standoff detection, and be able to conduct breaching, reconnaissance, and clearing operations. These systems must be maneuverable enough to operate in normally inaccessible areas such as tunnels, caves and sewers.

(MMvr-G-15) Rapidly Cross Wet and Dry Gaps - The Future Force requires the ability to rapidly bridge small gaps delivered by manned and unmanned systems.

(MMvr-G-16) Standoff Sense Through Walls - The future operational environment requires that platforms have the capability to detect and track enemy elements in buildings and (subterranean infrastructure) in the urban environment.

(MMvr-G-17) Specialized Urban Breaching - The Future Force requires the ability to breach entry points into urban infrastructure and disable assets from stand-off locations.

(MMvr-G-18) Rapid Construction and Repair of Combat Routes and Trails - The Future Force requires the ability to rapidly construct and clear combat routes to aid small unit mobility and maneuver.

(MMvr-G-19) Threat Detect at Extended Ranges - Future Army forces require the capability to detect threats at extended ranges and with sufficient target location accuracy to permit engagements, and provide early warning to friendly forces and populations.

(MMvr-G-20) Remotely Fired Munitions - Future Army maneuver forces require the capability to employ remotely fired munitions to increase survivability and lethality during operations.

Maneuver

Maneuver Air

(MMvr-A-1) Produce Actionable Combat Information - The Army Aviation future force requires the capability to conduct armed aerial reconnaissance with the man-in-the-loop decider forward and/or exercising control of unmanned aircraft to collect, develop and report near real time actionable combat information during joint and combined arms air-ground operations, to provide early warning, reaction time, and maneuver space in order to provide security for the air-ground team and counter enemy reconnaissance efforts.

(MMvr-A-2) Move Personnel, Equipment and Supplies by Air - The future Army Aviation force requires the capability to conduct air movement and maneuver to tactically transport combat Soldiers and associated equipment (dismounted air maneuver/air assault) from land or sea bases, to austere or unprepared landing zones (LZ) as well as the capability to transport personnel, equipment and supplies to forward points of need, and air medical evacuation of combat casualties during joint and combined air-ground operations, in order to overcome enemy anti-access and area denial efforts and rapidly achieve a position of advantage in relation to the enemy, provide aerial resupply and logistics support of ground forces, and enhance survivability, reduce long term disability and save Soldiers lives.

(MMvr-A-3) Destroy or Neutralize Enemy Forces - The Army Aviation future force must provide precision and volume, scalable (nonlethal to lethal) air-to-ground fires against the anticipated target set during joint and combined air-ground operations to destroy or neutralize enemy forces during close combat attacks in support of ground maneuver or interdiction attacks in support of shaping operations.

(MMvr-A-4) Ensure Aircraft and Aircrew Survivability - The Army Aviation future force requires the capability to operate in day/night/reduced visibility conditions due to adverse weather and environmental obscurants (blowing dust, snow, and debris), and the capability to avoid detection, acquisition, engagement, deny engagement/defeat munitions, survive engagement, continue the mission, and in the event of a catastrophic failure survive the crash during joint and combined air-ground operations in order to avoid damage to or loss of aircraft, injury or death of aircrew members or passengers.

(MMvr-A-5) Sustain and Maintain Aviation Operations - The Army Aviation future force requires the capability to maintain a high operational readiness rate, conduct rapid refueling and rearming operations, and aircraft recovery operations during joint and combined air-ground operations in order to provide responsive Aviation support over expanded areas of operation.

(MMvr-A-6) Enable Aviation Mission Command - The Army Aviation future force requires the capability to access the Aviation mission command capabilities essential for all Aviation platforms; to include non line-of-sight data, voice, imagery, video, unmanned aircraft system (UAS) control, AC2, and Fires, during joint and combined air-ground operations in order to maintain interoperability with supported ground forces and ensure coordination with other essential elements.

Fires

(F1) Intercept in Flight - The Future Force requires the capability to intercept in flight threat rockets, artillery, mortars, ballistic and cruise missiles, manned and unmanned aircraft in full spectrum operations in order to prevent surveillance, targeting, and attacks on friendly forces, population centers, and critical infrastructure.

(F-2) Networked Precision Fires and Effects - Future Force commanders require the ability to apply full-dimension effects in near real-time throughout the battle space. Networked Fires enable precise application of effects against decisive points, centers of gravity and key nodes.

(F-3) Fires for Forcible Entry - The Future Force requires highly mobile ground-based fires for forcible entry operations.

(F-4) Tailorable Effects - Future Army forces require indirect fires capabilities in full-spectrum operations that provide the desired effects proportional to the target and situation (this includes the use of electromagnetic (EM) energy to destroy, degrade, and deny a threat's capability and protect friendly capabilities), to prevent fratricide, and to minimize collateral damage.

(F-5) Dismounted Target Acquisition Capability - The Future Force requires a lightweight dismounted target acquisition capability that integrates air and ground systems to facilitate precision fires.

(F-6) Automatic Target Recognition - The Future Force lacks the ability to accurately classify aircraft, missiles, rockets, artillery, and mortars objects to a sufficient level of detail to enable the correct military engagement decision time.

(F-7) Lethality Overmatch Against Advanced Armors and Hard Targets - The Future Force requires advanced special multipurpose munitions for use against advanced armors and hardened above/below ground targets at extended ranges that were previously considered impenetrable.

(F-8) Reduced Weight Munitions - The Future Force requires the ability to achieve equal or greater lethal effects with reduced weight munitions.

(F-9) Passive Marking and Designating - The Future Force requires LOS/BLOS/NLOS passive marking and designation systems to provide responsive precision network fires and support combat identification.

(F-10) Unmanned Systems – Fires - The Future Force requires unmanned systems to assist in planning, development, and execution of lethal/non-lethal engagements, direct/indirect fires, and target identification.

(F-11) Cluster Munitions Alternatives - The Future Force requires a DPICM alternative capability that complies with DoD Cluster Munitions Policy

(F-12) Obscurants and Illumination - The Future Force requires the capability to employ multispectral obscurants and illumination to limit enemy freedom of action and support combined arms operations.

Sustainment

Sustainment

(S-1) Force Health Protection Initiative - The Future Force requires a capability to provide advanced medical treatment from the point of injury across the entire continuum of care, including medical evacuation, through the application of remote technologies and care providers in a joint inter-dependent trauma system while conducting FSO in a joint, interagency, intergovernmental, and multinational environment.

1. The Future Force requires a First Responder capability to control non-compressible bleeding, provide blood component therapy and specialized far forward trauma care for damage control resuscitation of pre-surgical patients, as well as, the ability to rapidly assess the existence and severity of head trauma.
2. The Future Force requires a capability for safe and effective pain management at all levels of care and a capability to fully restore, reconstruct, and rehabilitate wounded warriors to ensure effective return-to-duty with appropriate standards, particularly following psychological and traumatic brain injuries.
3. The Future Force requires protection against infectious diseases via portable and flexible remote sensing and detection systems which will permit rapid characterization of pathogens as well as accelerated development of vaccines and medications to prevent illness.
4. The future medical force requires the capability to capture, process, and disseminate real-time medical information on the Soldier's physiological status, injuries, illnesses, wounds, and treatment provided from the point of injury through definitive care. This provides the commander a greater awareness of Soldier status and provides the Soldier with a complete digital medical record.

(S-2) Anticipatory Sustainment and Improved Distribution - The Future Force needs improved intelligent anticipatory tools and capabilities to manage, track, redirect, account for, and distribute supplies in an automated manner to provide improved asset visibility and understand demand. The Future Force requires the ability to provide logistics support for forced entry, early entry, and non-contiguous operations.

(S-3) Improved Inter-Modal Platforms, Technologies, and Techniques - The Future Force requires faster, more efficient and effective deployment and sustainment of forces via improved inter-modal platforms, technologies and techniques. Enablers should include air and ground delivery systems as well as packing, tracking, temperature control and reporting capabilities.

(S-4) Base Camps - Future Army forces require the capability to plan, design, construct, operate, transfer, and close base camps in a joint, international, and multinational environment to provide safe, secure, and largely self-sustaining base camps to support full-spectrum operations.

(S-5) Explosive Ordnance Disposal - Future Army forces require the capability to dispose of conventional and unconventional explosive threats utilizing advanced technology in complex environments, over extended distances, and for extended periods of time.

(S-6) Human Resources - Future Army forces require the capability to accurately assess, predict, and fill manpower requirements, assess a Soldier's readiness to deploy, and account for the force in near real time to ensure commanders have the right Soldier, with the right skill sets, at the right time.

(S-7) Reliability, Prognostics, and Diagnostics - The Future Force requires significantly improved reliability for all air, ground, water, and C4ISR systems to increase availability, enhance soldier protection, reduce logistic support, and cut the life cycle costs of current cost. The Future Force requires embedded prognostics and improved diagnostics to predict, isolate and locate system degradation and failures.

(S-8) Austere A/SPOD Assessment & Enhancement - The Future Force requires the ability to rapidly assess, establish and upgrade multiple unimproved A/SPODs to support operational movement and maneuver.

(S-9) Unmanned Systems - Support - The Future Force requires unmanned systems to support sustainment tasks, functions, and missions of: supply, deploy, employ, re-deploy, reset, distribution, and services, including unmanned air and ground delivery systems from home station to deployed locations. The Future Force requires unmanned systems that perform tele-medicine/surgery.

(S-10) Provide Water - The Future Force requires the ability to purify water from all sources, produce potable water from atmosphere and/or exhaust to minimize/eliminate its transportation and storage, and provide rapid and field expedient testing capability for Soldiers to ensure no contaminates or biological growths are present.

(S-11) Process and Render Safe Contaminated Remains - The Future Force requires the ability to safely conduct mortuary processes on CBRN contaminated remains and render them safe for transport and final disposition.

(S-12) Maintainability – Tool Free Maintenance - The Future Force needs technologies and designs which allow minimal-tool maintenance.

(S-13) Adaptable Facilities Deployed and at Home Station - Provide dynamically adaptable infrastructure at home station and for deployed force. Provide the capability to rapidly and inexpensively construct permanent and expeditionary facilities which can be configured and reconfigured to adapt to changing mission, equipment, and personnel requirements.

(S-14) Sustainable Joint/ARFORGEN Base Operations - Provide capability to deploy, redeploy, and reset base operations by providing flexible and responsive services synchronized to support Soldiers, Families, and civilians throughout the ARFORGEN process.

(S-15) Retard Decomposition, Improve Transportation, and Obtain 100% Positive ID of Remains - The Future Force requires the ability to retard decomposition prior to and during mortuary processing and transportation to support 100% positive identification of remains within full spectrum operations.

Intelligence

(INT-1) Holistic Human and Societal Assessment - The Future Force requires the capability to integrate and assess human terrain information (cultural, psychological, and social) and political, military, economic, social, infrastructure, information, physical environment and time (PMESII+PT) variables, contributing to a more holistic assessment of the operational environment. This requirement includes the need to determine source credibility during screening operations and vetting of sources and the ability to determine deception during interrogation and questioning operations under field conditions in real time.

(INT-2) Force Design - The Intelligence Future Force design structure requires the capability to provide sufficient capacity and agility to effectively operate in all future operational environments (OE) while providing support down to the tactical edge. This requirement includes mobile devices which include intelligence-related applications; mobile high-power computational systems; robust network capability with secure communications capability; and cross-domain information solutions.

(Int-3) Precision Collection - The Future Force requires the capability to collect information and intelligence to provide commanders situational awareness and situational understanding. This requirement includes the ability to effectively collect with precision to detect, identify, track, and locate units, structures, vehicles, personnel, communications devices, weapons, improvised explosive device precursors, munitions, emerging technologies and signatures, and to provide for persistent area assessment, situation development, and mission over watch. This requirement also includes the ability to rapidly collect, process, and exploit captured enemy documents and media.

(INT-4) Data-to-Decision Processing, Exploitation and Dissemination (PED) - The Future Force requires the capability to sufficiently manage the processing and exploitation of all relevant collected data and provide real time support to commanders' situational awareness and situational understanding and the common operational picture (COP). This capability includes software-enabled automated information synthesis to tag, process, and transform data rapidly and accurately into usable knowledge, across a wide range of subjects from military logistics to culture and economics.

(INT-5) Intelligence Enterprise - The Future Force requires the capability to leverage the Intelligence Enterprise and access to the all-source data and knowledge bases, throughout the DoD community.

(INT-6) Collection Synchronization - The Future Force requires the capability to fully synchronize collection assets and processes at decisive points to satisfy CCIR and achieve operations-intelligence integration. This requires the capability to access fused data from manned and unmanned sensors operating together and collection against numerous and competing requirements. The Future Force requires the ability to provide tools and automation to aid the synchronization and optimization of collection resources.

(INT-7) Analytical Rigor - The Future Force requires the capability to support rigorous all -source and single-source analysis through the use of adequate processes, technologies, and techniques. This requirement includes sufficient capability to analyze and assess shifting loyalties and changing environments, and to continually reassess the efficacy of the intelligence process.

(INT-8) Weapons Technical Intelligence (WTI) - The Future Force requires the capability to apply sufficient weapons technical intelligence (WTI) capability to enable data and material discovery. Forces require the ability to reliably access and share battlefield data and/or materials, and disseminate exploited information/intelligence.

(INT-9) Weather - The Future Force requires the capability to continuously detect and forecast rapidly changing weather conditions in all environments and with sufficient capability to provide wide-area, high resolution weather observation and processing. This capability includes a layered network of systems to enable persistent monitoring and forecasting of changing weather conditions.

(INT-10) Biometrics and Forensics Enabled Intelligence - The Future Force requires the capability to provide the Biometric Enabled Intelligence, Forensic Enabled Intelligence, and contextual analysis on biometric subjects, associations and patterns. This includes the ability to positively detect, identify, and track, non-cooperatively with precision, high value individuals at stand-off distances in complex environments, and to retrieve/ match personnel identification data from Joint, Interagency, Intergovernmental, and Multinational (JIIM) repositories in real time.